

What is claimed is:

1. A method for the recovery of nucleic acids from a material containing nucleic acids, which comprises:

a step 2 for mixing a nucleic acid-containing material with an accelerator substance for the binding of nucleic acids to a solid phase,

a step 3 for making the mixture obtained in said step 2 in contact with a solid phase bondable to nucleic acids to form a nucleic acid-binding solid phase,

a step 4 for isolating the nucleic acid-binding solid phase from a liquid,

a step 5 for washing the nucleic acid-binding solid phase with a solution containing an acetate, and

a step 6 for eluting the nucleic acids from the solid phase.

2. The method according to Claim 1, which further comprises, before the step 2, a step 1 for promoting the release of nucleic acids from the material.

3. The method according to Claim 1, wherein said step 5 is composed of a step 5a for removing non-nucleic-acid components from the nucleic acid-binding solid phase by washing, and a step 5b for removing the accelerator substance from the solid phase by washing.

4. The method according to Claim 3, wherein a solution

of guanidine hydrochloride is used in said step 5a for washing and removing the non-nucleic-acid components from the solid phase.

5. The method according to Claim 1, wherein said solution containing an acetate is an aqueous solution containing 0.5 mol/liter or more of potassium acetate.

6. A method for the recovery of nucleic acids from a material containing nucleic acids, which comprises:

a step 2 for mixing a nucleic acid-containing material with an accelerator substance for the binding of nucleic acids to a solid phase,

a step 3 for making the mixture obtained in said step 2 in contact with a solid phase bondable to nucleic acids to form a nucleic acid-binding solid phase,

a step 4 for isolating the nucleic acid-binding solid phase from a liquid,

a step 5 for washing the nucleic acid-binding solid phase with a solution containing 0.2 mol/liter or more of potassium chloride, and

a step 6 for eluting the nucleic acids from the solid phase.

7. A method for the recovery of nucleic acids from a material containing nucleic acids, which comprises:

a step 2 for mixing a nucleic acid-containing material with an accelerator substance for the binding of nucleic

acids to a solid phase,

a step 3 for making the mixture obtained in said step 2 in contact with a solid phase bondable to nucleic acids to form a nucleic acid-binding solid phase,

a step 4 for isolating the nucleic acid-binding solid phase from a liquid,

a step 5 for washing the nucleic acid-binding solid phase with a mixture of an aqueous solution containing a salt and an alcohol, and

a step 6 for eluting nucleic acids from the solid phase.

8. The method according to Claim 7, wherein said method further includes a step 7 for removing the alcohol after said step 6.

9. The method according to either of Claim 7 or 8, wherein the alcohol used in said step 5 is ethanol at a concentration less than 50% in the mixture.

10. The method according to any one of Claims 7 to 9, wherein said mixture for washing used in said step 5 is a solution containing 40% of ethanol and 10 mmol/liter or more of potassium acetate.

11. The method according to any one of Claims 7 to 10, wherein said mixture for washing used in said step 5 is a solution containing 40% of ethanol and 25 mmol/liter or more

of sodium chloride.

12. The method according to any one of Claims 1 to 11, wherein said accelerator substance used in the step 2 is guanidine hydrochloride.

13. The method according to any one of Claims 1 to 11, wherein said solid phase used in the step 3 is a substance containing silicon dioxide.

14. Apparatus for the recovery of nucleic acids from a material containing nucleic acids, which comprises:

first means for mixing a nucleic acid-containing material with an accelerator substance for the binding of nucleic acids to a solid phase,

second means for making the mixture obtained above in contact with a solid phase bondable to nucleic acids to form a nucleic acid-binding solid phase,

third means for isolating the nucleic acid-binding solid phase from a liquid,

fourth means for washing the nucleic acid-binding solid phase with a solution containing an acetate, and

fifth means for eluting nucleic acids from the solid phase.

15. Apparatus for the recovery of nucleic acids from a material containing nucleic acids, which is composed of:

a first pipetter for discharging an accelerator

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substance for the binding of nucleic acids to a solid phase, a solid phase bondable to nucleic acids, a washing solution for the accelerator substance from the solid phase, and a liquid for eluting nucleic acids from the solid phase, separately and in turn, into a chamber encasing a nucleic acid-containing material and for stirring the liquid in the chamber,

an isolating means for isolating the solid phase from a liquid phase in the chamber,

a second pipetter for aspirating the liquid phase isolated by the isolating means from the chamber, and

a control means for controlling operations of the first pipetter, the isolating means and the second pipetter,

wherein the liquid phase which has been eluted from the nucleic acid-binding solid phase by an eluent for eluting nucleic acids, and isolated by the isolating means is aspirated by the second pipetter, and an aqueous solution containing nucleic acids is purified from the aspirated liquid phase.

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